

and up to a comparatively short time ago, I was in very bad health, and therefore during many years almost, if not quite, cut off from all work in my observatory during the cold season, when that work which required most time had to be carried out."

A comparison with the results of previous observations of parts of the same cluster induced Pihl to make an investigation of a peculiar difference, evidently of physiological origin, between the results from occulting micrometers, which he had used in all his observations, and other micrometers. The investigation was given in the publication *On Occulting Micrometers and their Value as applied to exact Astronomical Measurements* (Christiania, 1893).

Among other mechanical contrivances with which Pihl occupied himself in his leisure hours was the construction of electrical clocks. His own house, as well as those of his three sons, was furnished with such, made by his own hands. The construction of the apparatus for giving the appulse to the pendulum had in early years led him to an investigation of magnetic attraction at short distances. Here he met with the problem of calculating, from the known fundamental law, the attraction between two parallel circles (surfaces or peripheries). As this leads to elliptical integrals, which, he could not master, he resolutely split up the areas or peripheries into small parts and made a direct calculation, partly by construction and interpolation. The results of these calculations, for several dimensions and distances, he has given in *Christiania Videnskabs-Selskabs Forhandlinger*, 1876 and 1881. The whole investigation, which included a very extensive series of experiments of different kinds, partly made with apparatus of his own construction, was published in 1878 in a book of 135 pages, *On Magnets*, forming an appendix to the proceedings of the said society.

Pihl was elected a fellow of the R.A.S. 1860 November 9, and has contributed some papers to vols. xxviii., xxix., and xxxiii. of the *Monthly Notices*, dealing partly with his observations of stellar clusters, partly with the meteoric showers of 1866 November 13-14 and 1872 November 27.

In 1850 he married a Swedish lady, Miss Tranchell, after whose death, in 1894, his own health rapidly declined. After suffering some time from Bright's disease he died 1895 July 1. His deep interest and extensive knowledge in science, his love of music, and his amiable hospitality will be remembered, not only among his countrymen, but certainly also among many foreign friends.

[The Council is indebted to Prof. H. Geelmuyden, of the Christiania Observatory, for the above notice.]

ALFRED WHITE was born in Holborn on 1811 March 3. He was the elder son of Paul Sleath White and grandson of William White (the first Grand Secretary of the English Freemasons and Secretary of the Honourable Artillery Company, Finsbury),

descended from the Whites of Cork, Ireland, and Dr. Paul Limrick, D.D., Rector of Scull, co. Cork, Ireland.

He was head of the firm of Alfred White & Sons, manufacturing chemists, of Castle Street, Saffron Hill, London, and West Drayton, Middlesex, which was established in 1775.

His residences were Horton Field, West Drayton, Middlesex, and Ashingdon Hall, Rochford, Essex.

Although he took great interest in astronomical research, his chief studies were archæology and chemistry.

He was Fellow of the Linnean Society, Fellow of the Society of Antiquaries, Fellow of the Chemical Society, &c.

He married (1845 November 6) Marianne, eldest daughter of the late Rev. Thomas Pugh, at Redbourne, near St. Albans, Herts (she died 1879 October 9). Issue, four sons and three daughters, all of whom are living except his eldest daughter, who died 1865 March 12.

He died at Horton Field, West Drayton, on 1895 March 8, being eighty-four years of age, and was buried in the family vault in Hillingdon Churchyard, Middlesex, with his wife and eldest daughter.

For the above particulars the Council is indebted to Mr. P. T. White, son of Mr. Alfred White. This death closes the list of Fellows of the Spitalfields Mathematical Society, who were elected Fellows of this Society in a body on 1845 June 13; and it is perhaps a fitting opportunity to reprint the account of the circumstances attending this election, as given in *Monthly Notices*, vol. vi. p. 256 :—

“The President then announced that in pursuance of a resolution of the Council, which had been duly intimated to the Fellows, as required by the Bye-laws, the business of the Ordinary Meeting was now concluded, and that a Special General Meeting would immediately be held, to take into consideration a subject, of which due notice had been given to the Fellows by the following circular, which he requested the Secretary to read :—

“ ‘Somerset House, June 5, 1845.

“ ‘Sir,—I have the honour of notifying to you that in pursuance of a Resolution of the Council, passed on Friday, the 23rd of May last, a Special General Meeting of this Society will be held at the Society’s apartments on Friday, the 13th day of June instant, immediately after the business of the Ordinary Meeting to be held on that day is concluded, for the purpose of taking into consideration and deciding upon a recommendation of the Council to suspend upon that occasion the Bye-laws relative to the Election of Fellows, and to elect as Fellows of this Society the remaining Members of the Mathematical Society (now reduced to nineteen in number, of whom three are already Fellows), without payment of the usual Admission Fees and

Annual Contributions (or compositions in lieu thereof), the Mathematical Society having announced its resolution to transfer its valuable Library, with its Records and Memorials, to the Royal Astronomical Society.

“ ‘ I have the honour to be, Sir, your most obedient servant,

“ ‘ ROBERT MAIN, Secretary.’

“ It was then moved by Professor De Morgan, seconded by Mr. Galloway, and resolved unanimously :—

“ ‘ That the recommendation of the Council in the circular now read be approved and adopted by this Meeting ; and that on the Library, Records, and Memorials of the Mathematical Society being delivered over to this Society, the following sixteen gentlemen, Members of the Mathematical Society, be admitted Fellows of the Royal Astronomical Society without payment of the admission fees or annual contributions required by the By-laws—viz. :

William Wilson, Esq.	Thomas K. White, Esq.
Robert Graham, Esq.	Philip James Chabot, Esq.
Robert Porrett, Esq.	Charles O. Dayman, Esq.
James Scott Bowerbank, Esq.	Thomas Cooper, Esq.
Julius Page, Esq.	John Walton, Esq.
John Williams, Esq.	Jacob Hoyer, Esq.
Henry De Berckem, Esq.	Robert Arthur Graham, Esq.
Alfred White, Esq.	Thomas Taylor, Esq.

and that the remaining three members of the Mathematical Society—viz. :

Benjamin Gompertz, Esq.	John Lee, Esq.
John James Downes, Esq.	

or such of them as are liable to the payment of Annual Contributions, be exempted in future from such liability.’ ”

At the meeting of 1845 November 14 “ Mr. Stratford stated that the books received consisted of

76	volumes	folio
622	„	4to
1,442	„	8vo
311	„	12mo

131 books not bound or catalogued, and that six volumes were yet to be delivered ; that the Council had this day determined to complete the deficient sets of the most valuable works, to rearrange the library, and to prepare a new catalogue, uniting the books of the two societies as early as possible.”

PROFESSOR DR. FRIEDRICH WILHELM GUSTAV SPÖRER was the son of a merchant of Berlin, in which city he was born on